

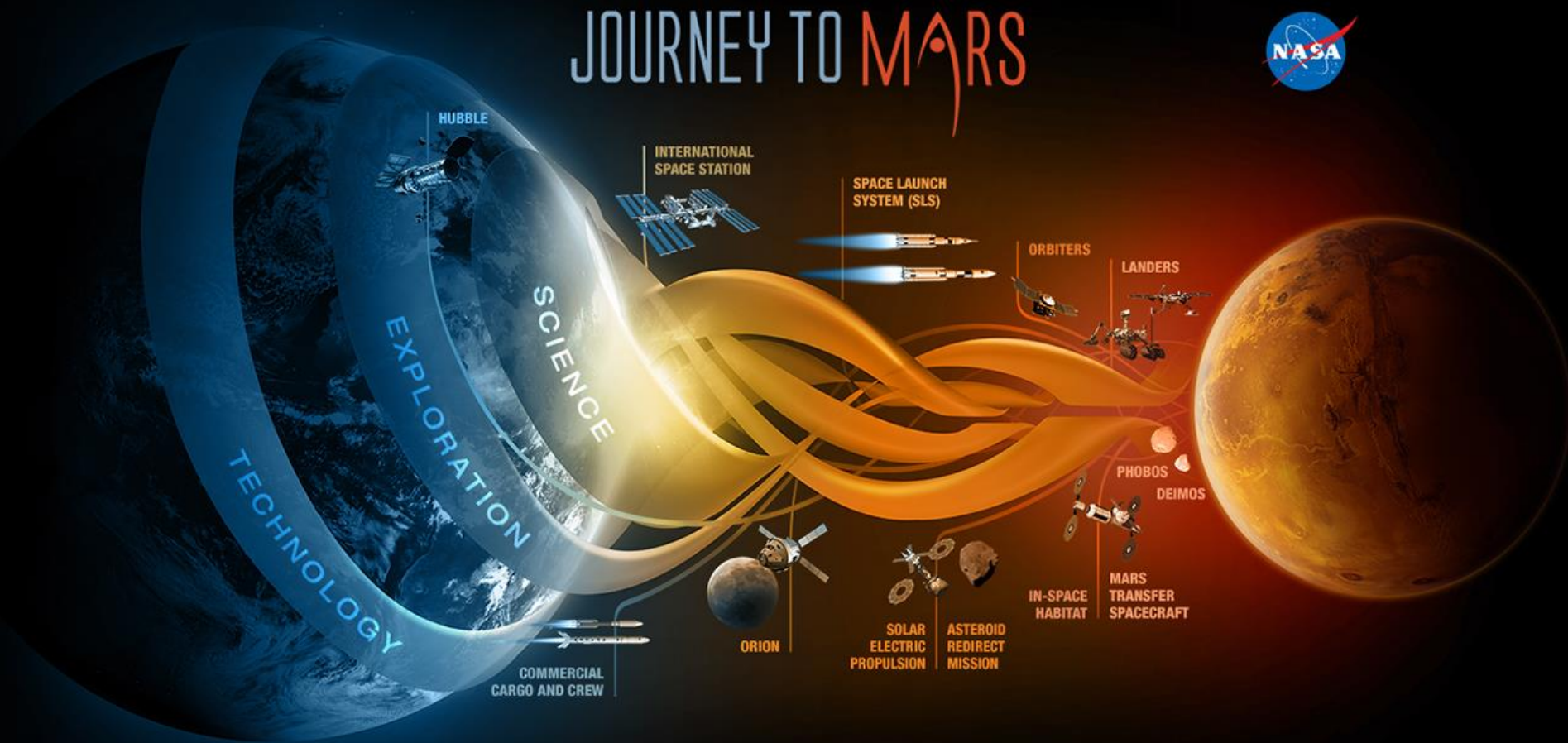


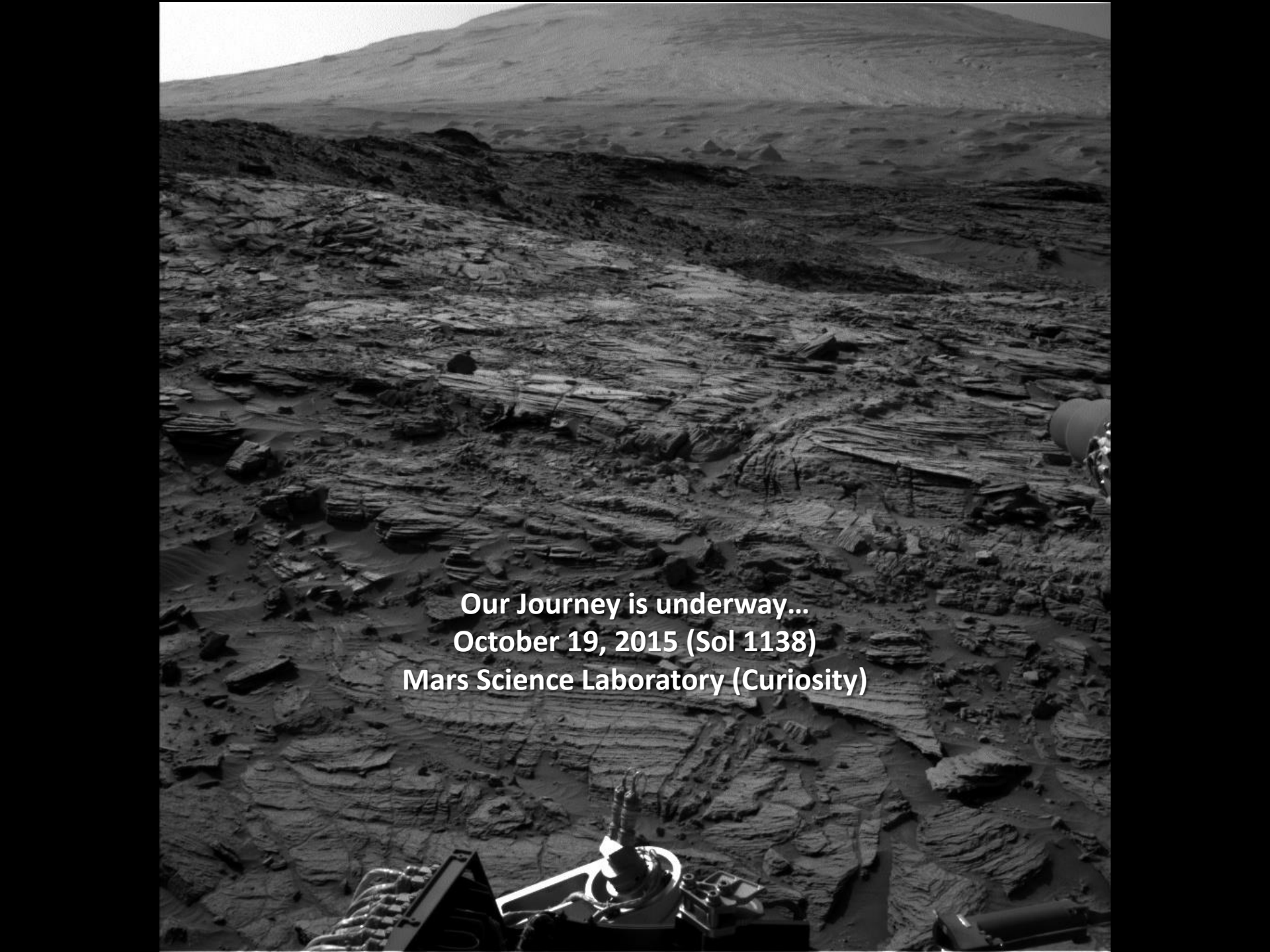
# Open Innovation & Challenges at NASA

James E. Johnson - NASA

## NASA'S JOURNEY TO MARS

# Challenges on the Road to Mars



A black and white photograph showing the Martian surface from the perspective of the Curiosity rover. The foreground is filled with dark, layered rock formations and scattered rocks. In the background, a large, flat-topped mountain rises against a pale sky. The rover's mechanical components are visible in the lower foreground.

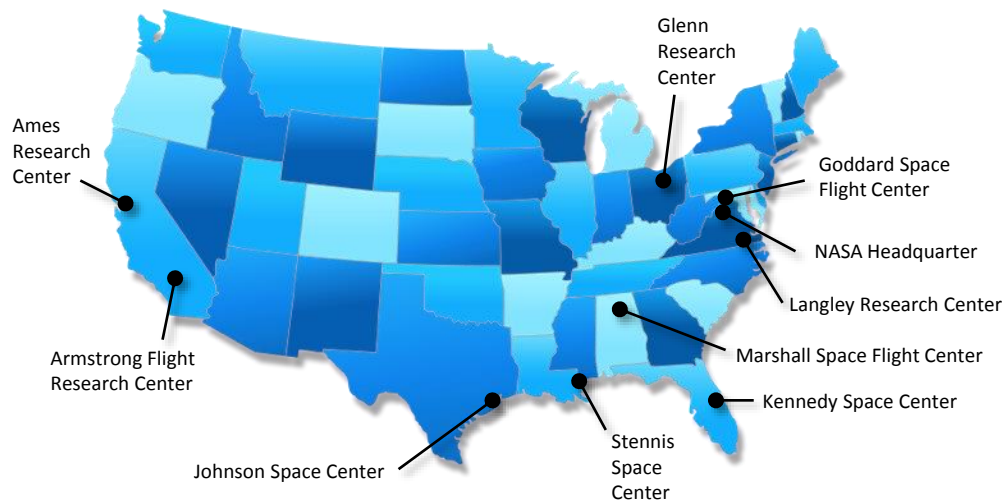
**Our Journey is underway...**  
**October 19, 2015 (Sol 1138)**  
**Mars Science Laboratory (Curiosity)**



# NASA's Center of Excellence for Collaborative Innovation (CoECI)



- The **Center of Excellence for Collaborative Innovation (CoECI)** was officially launched in November of 2011 at the request of the White House OSTP.
- **CoECI** works across all of NASA and with other federal agencies to infuse crowdsourcing methods as a set of available tools to create innovative, efficient, and optimal solutions to real world problems.



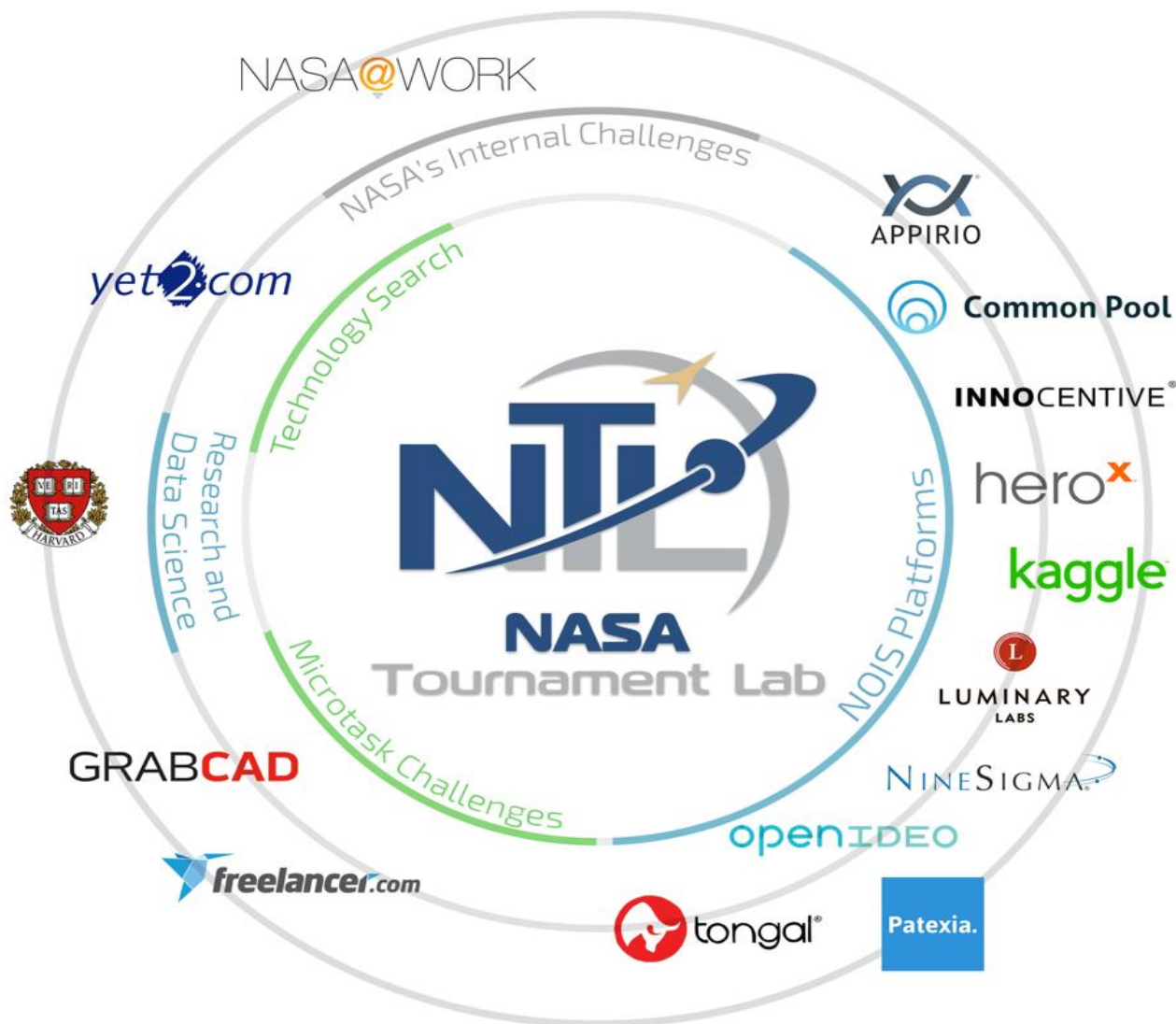
US Federal Agencies



- **Other NASA Crowd-Based/Challenge Programs**
  - **NASA Centennial Challenges** – Similar to X-Prize competitions
  - **SpaceApps, Education & Citizen Science Challenges**



# CoECI Toolkit: The NTL



## ***Open Innovation...***

- Leverages diversity of thought, and
- The power of the crowd



## ***Prizes & challenges...***

- Incentivizes creative ideas, and
- Innovative solutions



## ***Collectively realize...***

- Broad trade spaces,
- Rapid iteration, and

***Cost-effective system design!***

# Panel Discussion: Open Innovation & Challenges at NASA

## **NASA Tournament Labs & Open Innovation at Harvard**

- Mr. Jin Paik, Director of Project and Research Development

## **NASA's Mars Balance Challenge & Lessons Learned**

- Mr. James E. Johnson, NASA Systems Innovator & Mars Balance Challenge Lead

## **NASA Centennial Challenges**

- Mr. Eric Eberly – Deputy Project Manager of NASA Centennial Challenges

NASA'S JOURNEY TO MARS